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PHOSPHATE MIMICS AND METHODS OF TREATMENT USING PHOSPHATASE INHIBITORS

RELATED APPLICATIONS

This application is related to U.S. Provisional Application Serial No. 60/150,970, filed August 27, 1999 and U.S. Provisional Application Serial No. 60/165,365, filed November 12, 1999, which are incorporated by reference as if fully set forth herein.

FIELD OF THE INVENTION

The present invention relates to, *inter alia*, novel trifluoromethyl sulfonyl and trifluoromethyl sulfonamido compounds, their physiologically acceptable salts and prodrugs, which modulate the activity of protein phosphatases and uses thereof. The invention also relates to the use of compounds containing fluoromethyl sulfonyl groups to treat certain diseases. These compounds may be used as phosphate mimics to inhibit, regulate or modulate the activity of a phosphate binding protein in a cell. Thus, these mimics may be particularly useful in the treatment of phosphate binding protein associated disorders.

BACKGROUND OF THE INVENTION

Phosphate derivatives are involved in a wide variety of cellular processes. Common phosphate derivatives include nucleotides (e.g. mono-, di- or tri- phosphate adenosine, guanine, cytosine, thymidine, or uridine, or cyclic derivatives) either naturally occurring or synthetic analogues. Other common cellular phosphate derivatives include co-factors such as thiamine pyrophosphate, NADPH, pyridoxal pyrophosphate, or coenzyme A; compounds